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A Synopsis of the MORDELLIDÆ of the United States.

BY JOHN B. SMITH.

The following synopsis of the genera and species is based principally upon Dr. LeConte's synopsis in Pr. Ac. N. Sc. Phila. xiv, pp. 43-51. The arrangement there proposed has been retained, and besides adding subsequently described and several new species little change has been found necessary; a few of the species there described are referred as synonyms or varieties, but otherwise matters have been left pretty much as they were. In preparing the synopsis I have been aided by Drs. LeConte and Horn of Phila., and by Prof. Schaupp of Brooklyn. Dr. Horn granted me the rare favor of allowing me to take his entire collection of this family for the purposes of study and description, while Dr. LeConte placed his types and all his undetermined material at my disposal.

The insects comprising this family are distinguished by the usually small size, depressed or transversely flattened form, enlarged coxæ and femora, the transverse striation in the ANASPINI, and the anal style in the MORDELLINI. They are usually clothed with fine sericeous pubescence and often handsomely variegated.

A few words may be said of the structural characters used in separating genera and species in this family. One of the most important of these characters are the ridges on the tibia and tarsi in the *Mordellini*; these ridges vary in distinctness, direction, length and number; and by them species which superficial examination would pronounce identical, can be readily distinguished. As a means of separating species this character is excellent, as a generic distinction its value is doubtful; and yet *Glipodes* and *Mordellistena* are separated principally by the number and direction of these ridges; principally I say, but not entirely, else I should have discarded *Glipodes*; what led me to retain the genus is the peculiarity of the maxillary palpi of the ♂ of *G. sericans*. The ♂ of *helva* has either not yet been found or the peculiarity does not exist in it; should the latter prove the case, then *Glipodes* must fall; until the ♂ of *helva* is discovered it would be rather a hasty course to discard the genus, unless meanwhile some other species are discovered which will bridge the gap. This I consider more than probable when the southern and western portions of the United States have been thoroughly collected over. It is a matter of regret that common as are the species on flowers, larger collections of this family are not made, and yet a fact it is, that in

most collections this family is represented only by a few of the more common species—often not at all. The genus *Mordellistena* is divided into groups according to the number of tibial ridges, and the groups are subdivided according to the tarsal ridges, until finally color separates the species of the subdivisions where there is more than one species therein.

In a very few instances there exist besides the set of well marked ridges, imperfect or rudimentary ridges, and these rudiments in at least one case create doubt; *M. aspersa* and *M. morula* are separated only by the number of ridges on the posterior tibia; *aspersa* having two, and *morula* three; but *aspersa* occasionally has a rudimentary ridge, and this rudiment became in one instance so strong that I was really in doubt whether the insect was *morula* or *aspersa*; among the undoubted *morula* form I could find none which seemed to present a weak third ridge, while I managed to fill the gap between my specimen and the true *aspersa* by intermediate forms and so placed it with the latter; the question now is whether diligent collecting in the home of *morula* would not show that it and *aspersa* intergrade, and what effect that would have on the large proportion of species based on ridges alone! Until I can get a much greater amount of material this question cannot be absolutely determined, and meanwhile the genera and species may be distinguished as follows:

MORDELLIDÆ.

A.—*Abdomen without anal prolongation; claws not cleft; hind femora moderate.*

ANASPINI.

Anterior and middle tarsi with fourth joint equal to third.

Antennæ long; scarcely thickened externally.....**Diclidia.**

Antennæ shorter; last five joints broader.....**Pentaria.**

Anterior and middle tarsi with fourth joint very small.....**Anaspis.**

B.—*Abdomen with the last segment prolonged, conical, claws cleft and pectinate, hind femora very large.*.....MORDELLINI.

Hind tibia with a small subapical ridge; eyes finely granulated.

Scutel usually emarginate behind; anal style short, obtuse.....**Tomoxia.**

Scutel triangular; anal style long and slender.....**Mordella.**

Hind tibia and tarsi with oblique ridges on the outer face; eyes coarsely granulated.

Hind tibia without subapical ridge.....**Glipodes.**

Hind tibia with subapical ridge distinct.....**Mordellistena.**

ANASPINI.

Hind femora not, or but slightly dilated; tibia slender, claws not cleft nor serrate; last dorsal segment not prolonged; sixth ventral segment not visible in *Anaspis*; visible in *Pentaria* and *Diclidia*; eyes oval, narrowly emarginate; antennæ inserted very near the eyes, not serrate. Body transversely strigate, pubescent. Species found on plants.

DICLIDIA Lec.

Scutellum rounded, triangular; last dorsal segment not prolonged, sixth ventral visible; hind tibia slender, without ridges; fourth joint of anterior and middle tarsi emarginate, not smaller than the third; claws dilated at base; hind femora small; mesosternum compressed, much elevated; eyes coarsely granulated with a small emargination; antennæ long and slender, slightly thickened externally, not serrate; third and fourth joints each equal to the first and second together; fifth and sixth a little shorter.

In the ♂ the fifth ventral segment is broadly emarginate, and from the tip of the abdomen proceed two long triangular appendages truncate at apex. The sculpture consists of fine transverse lines.

Differs from *Pentaria* by the form of the antennæ, (see Pl. I, fig. 1, *Diclidia*, and fig. 6, *Pentaria*), by the form of the mesosternum, and by the external sexual characters; the maxillary palpi, posterior tibia and tarsi, and anterior tarsi are figured Pl. I, figs. 1—4 inclusive.

The only species known is

D. lætula Lec. (*Anaspis*), Pr. Ac. 1858, p. 76. (Pl. I, fig. 5).—Yellow; scutellar cloud, and two posterior bands of elytra black; venter fuscous. 3 mm. Texas, Ohio.

Seems to be not uncommon in Texas, and will probably be found elsewhere in the southwest. The specimens vary in the distinctness of the black markings, which are sometimes barely discernable; the width of the bands varies somewhat but the position and length are always the same.

PENTARIA Muls.

Like *Diclidia*, except that the mesosternum is not compressed and elevated; antennæ with the joints 4—6 short, 7—11 thickened, not serrate; last joint of the maxillary palpi triangular, acute at tip.

The species are small, narrow, and finely pubescent; the sculpture as in *Diclidia* consists of very fine transverse lines. The species except *trifasciata* are western, and even that species is exceedingly rare; so rare that none of the eastern collectors with whom I am acquainted, nor I myself have taken it.

This as well as *Diclidia* seems to lead from some of the *Melandryidæ* to the true *Mordella*, being related to both, but most closely to *Anaspis*, and therefore properly placed in this family.

No external sexual characters have been hitherto discovered. The mouth parts and feet are shown Pl. I, figs. 6—9.

The species may be distinguished as follows :

- Body fuscous; head, thorax, feet and base of antennæ testaceous; elytra yellow, with base, tip and a median band black. 3—4 mm.; Middle and Western States.....1. **trifasciata**.
 Body slender; pubescence fine; entirely fuscous or piceous; legs, mouth parts and base of antennæ paler. 2.5—3.5 mm.; Texas and New Mexico.....2. **fuscula**.
 Body narrow; yellow; with a broad fuscous band on the elytra at the middle. 2.5 mm.; California.....3. **nubila**.
 Body robust; pubescence coarse, fuscous; head, venter, legs and antennæ pale orange. 1.5 mm.; California.....4. **hirsuta**.

1. **P. trifasciata** Mels. Pr. Ac. Nat. Sc. Phila. ii, 318, (*Anaspis*), Lec. Agassiz L. Sup. 231, (*Anthobates*). (Pl. I, fig. 10).

I have received specimens from Ohio. In Dr. Horn's collection are specimens from the District of Columbia, Dakota and Utah Territory. It does not appear to vary in any respect, and may be readily distinguished from the other species in this genus by the banded elytra.

2. **P. fuscula** Lec. Pr. Ac. Nat. Sc. Phila. xiv, 44. (Pl. I, fig. 12).

The few specimens that I have seen agree in every respect with the description; there is a slight variation in size, and some in brightness of color, but none otherwise, that I could discover. The figure shows the appearance of the transverse striation.

3. **P. nubila** Lec. (*Anaspis*), Pr. Ac. 1859, p. 78. (Pl. I, fig. 11).

Nearly allied to *trifasciata* in markings, but much more slender in form. The only specimens I have seen are from California, and they present no notable variation.

4. **P. hirsuta** sp. nov. (Pl. I, fig. 13).

Readily distinguished from the other species in this genus by the exceedingly small size, the robust form, and the long and unusually coarse pubescence. It is most nearly allied to *fuscula*. One specimen only; Coll. Dr. Horn.

ANASPIS Geoff.

Scutel rounded, triangular; last dorsal segment not prolonged, sixth ventral not visible; hind tibia slightly thickened, without ridges; fourth joint of anterior and middle tarsi very small, received upon the third which is slightly lobed; claws dilated at base; hind femora flat, moderate in size; mesosternum not compressed, finely carinate; eyes coarsely granulated, with a small emargination; antennæ slightly thickened externally, not serrate; last joint of maxillary palpi rounded internally, pointed at tip; transverse strigation very fine.

In the ♂, two long slender appendages are seen proceeding from between the fourth and fifth ventral segments; the fourth and fifth and sometimes the others are longitudinally excavated.

The species are usually found on flowers; plentifully enough where they occur, but they seem to be local; in two instances I have found *A. rufa* under the bark of a decaying tree, in considerable numbers.

Dr. LeConte states that "in the ♂ two long slender appendages are seen proceeding from between the fourth and fifth ventral segments," and I have followed him in the diagnosis of the genus. I must admit however that I have been entirely unable to discover these processes, although I have examined hundreds of specimens of *A. rufa* to this end alone. ♂'s I found with the excavated ventral segments, but never the processes. The mouth parts and feet are shown Pl. I, figs. 14—18.

A.—Body entirely black.

Thorax twice as wide as long; base of antennæ, palpi and front legs testaceous;

♂ with the ventral segments strongly channelled. 3—4 mm.; Lake Superior, Hudson's Bay Territory, Vermont, New York.....1. **nigra**.

Thorax one-half wider than long; mouth and base of antennæ very dark testaceous. 3—4 mm.; California and Colorado.....2. **atra**.

Thorax scarcely wider than long, base of antennæ and feet dark testaceous; elytra with a rufous humeral spot. 3 mm.; California.....3. **militaris**.

B.—Head, thorax and body black, elytra brownish-yellow.

Thorax scarcely wider than long. 4 mm.; California and Sitka...4. **sericea**.

Thorax one-half wider than long. 3—4 mm.; New York, Georgia, Minnesota.

5. **flavipennis**.

C.—Thorax and elytra brownish-yellow.

Thorax one-half wider than long, head yellow or more or less piceous; antennæ and abdomen yellow or fuscous. 3—4 mm.; Southern, Middle and Western States.....6. **rufa**.

Thorax nearly twice as wide as long; entirely uniform yellowish-brown; more robust than the preceding. 1 mm.; Col., Des. & Cal.....7. **pusio**.

D.—Thorax yellow; elytra and body black.

Thorax a little wider than long; anterior and middle thighs partly testaceous; transverse lines of elytra more distinct than usual. 3 mm.; California.

8. **collaris**.

1. **A. nigra** Hald. (*Hallomenus*), Journ. Ac. Nat. Sc. Phila. New Series, i, 99; Lec. Pr. Ac. Nat. Sc. Phila. xiv, 45, (*Anaspis*).

Very rare apparently; only single specimens coming from various sections. One specimen from the vicinity of Ithaca, N. Y., and one from Vermont are all that I have seen. The insect is readily recognized by the robust form.

2. **A. atra** Lec. Ann. Lyceum Nat. Hist. N. Y. v, 157. (Pl. I, fig. 20).

More common than the former and readily distinguished from it by the more elongate and slender form. I have received it from Colorado, (Prof. Snow).

3. **A. militaris** sp. nov. (Pl. I, fig. 21).

Of the same form as the preceding, but at once distinguishable

from it by the humeral spot of the elytra. One specimen only; Coll. Dr. Horn.

4. **A. sericea** Mann. Bull. Mosc. 1843, 288; *luteipennis* Lec. Ann. Lyceum Nat. Hist. N. Y. v, 157.

A specimen of this species sent me by Dr. LeConte, does not agree with the description of the species, and appears to be a specimen of *A. rufa*. I have seen no specimen to agree with the description.

5. **A. flavipennis** Hald. Journ. Ac. Nat. Sc. Phila. New Series, i, 100.

Common in northern N. Y. In the Adirondack Mts., I found it in company with *A. rufa*, though by no means as common. The difference between this and the foregoing is very slight indeed, and a large series of *sericea* may prove its identity with this species.

6. **A. rufa** Say, Journ. Ac. Nat. Sc. Phila. v, 244, (*Mordella*); *pallescent* Mann. Bull. Mosc. 1843, 288; *ventralis* Mels. Pr. Ac. Nat. Sc. Phila. ii, 312; *filiformis* Lec. Agassiz L. Sup. p. 231; *nigriceps* Lec. Pr. Ac. Nat. Sc. Phila. xiv, 45.

Rather a variable species, as appears from the synonymy; *nigriceps* Lec. differs only very slightly in the color of the head from the typical *rufa*, and is at the most a local variation. I have collected many hundreds of this species, and have them from a pale yellow to a dark fuscous, although I have none with the head deep black. Dr. LeConte's type however, which he kindly sent me, does not quite agree with his remark "head black," it is more nearly piceous.

7. **A. pusio** Lec. Pr. Ac. Nat. Sc. Phila. 1858, 76. (Pl. I, fig. 19).

The smallest of our species, presenting nothing noteworthy.

8. **A. collaris** Lec. Ann. Lyceum N. H. N. Y. v, 157.

Readily distinguished by the combination of colors of thorax and elytra. I have seen but very few specimens, and these presented nothing peculiar.

MORDELLINI.

Hind femora very large and flat; metasternum short; hind tibia dilated; claws cleft to the base, and strongly pectinated; last dorsal segment conical, prolonged, sixth ventral not visible; eyes oval, emarginate; antennæ more or less serrate, inserted in front of the eyes, under a frontal margin; body pubescent, very finely punctulate.

I have been unable to find any consistent external sexual characters.

TOMOXIA Costa.

A true *Mordellid* genus, and differing from the genus *Mordella* principally by the eyes, which do not reach the occiput. The parts are figured Pl. I, figs. 22—26.

The species of this genus are cuneiform, of a blackish color varied with irregularly diffused, grayish pubescence; scutel usually emarginate behind; anal style short, obtuse; hind tibiæ and tarsi without ridges except the short subapical one of the former; eyes finely granulated; antennæ serrate; last joint of maxillary palpi more or less elongate, triangular and moderately thick, with the extremity hollowed out, sometimes broadly securiform.

Mordella hilaris Say, for which Dr. LeConte described the genus *Glipa*, belongs I believe to this genus. *Glipa* was based on the broadly securiform maxillary palpi and the non emarginate scutellum; but *T. lineella* has the palpi nearly as broad, and the latter characteristic is so minute, and the emargination in *Tomoxia* (*sensu* LeConte), is so small that I cannot persuade myself to consider it as distinct.

A.—*Scutel emarginate behind.*

I.—*Last joint of maxillary palpi long, triangular; base of thorax rounded at middle.*

Elytra with broad bands not extending behind the middle, a posterior fascia composed of spots, and apical margin cinereous; a large rhomboidal dark spot each side near base. 10—13 mm.; Middle and Western States.

1. **bidentata.**

II.—*Last joint of maxillary palpi securiform; base of thorax sub-emarginate at middle.*

Elytra with narrow lines, and subapical fascia cinereous; dark markings all narrow. 5—7 mm.; Middle and Western States.....2. **lineella.**

Elytra with a broad basal fascia, including each side a round black spot; transverse spot behind the middle, apex, suture and margin cinereous. 5 mm.; Western States.....3. **inclusa.**

B.—*Scutel not emarginate behind.*

Maxillary palpi broadly securiform; black varied with cinereous hair; elytra with a narrow, sub-basal band oblique inward, and a broad one oblique outwards, brown pubescent; connected along the suture and margin with cinereous pubescence. 9—13 mm.; Middle and Western States.....4. **hilaris.**

1. **T. bidentata** Say, Journ. Ac. Nat. Sc. Phila. iii, 277, (*Mordella*). (Pl. I, fig. 27).

Our most common species; found so far as I know only on dead trees. I have never caught it myself, but Prof. Schaupp informs me that he has seen it in large numbers in northern New York, in such situations. The specimens vary somewhat in the distinctness of their markings, and few indeed present them so sharply outlined as they are in the figure.

2. **T. lineella** Lec. Pr. Ac. N. Sc. Phil. xiv, 45. (Pl. I, fig. 28, palpi fig. 31).

Much more rare than the preceding and differing from it in the form of the maxillary palpi, in which it agrees with *Glipa*, and in the

markings. I have specimens from Ohio, but have not heard of its being found beyond the Mississippi.

3. **T. inclusa** Lec. Pr. Ac. Nat. Sc. Phila. xiv, 45. (Pl. I, fig. 29).

I have seen but a single specimen (Dr. LeConte's type), that agrees in all respects with the description, and from it the figure here given was made.

4. **T. hilaris** Say, Bost. Journ. Nat. Hist. i, 190, (*Mordella*); *hieroglyphica* Schwarz, Pr. Am. Philos. Soc. xvii, 372, (*Glipa*). (Pl. I, fig. 30, palpi fig. 32).

This species varies considerably in size, and somewhat in color of markings; a variety which has the space between the two posterior fasciæ brownish pubescent furnished the type of Mr. Schwarz's *hieroglyphica*. It does not appear to be common.

MORDELLA Linn.

Species cuneiform; scutel triangular; anal style generally long and slender; hind tibia and tarsi without ridges except the short subapical one of the former; eyes finely granulated, antennæ more or less serrate; last joint of maxillary palpi long, triangular and very obliquely truncate, except in the ♂ of *M. oculata* where it is broad and securiform with the under surface clothed with erect hairs; moderately thick and hollowed out at the extremity.

The species of this genus are usually rather rare; two or three species are common enough in the middle states, but the majority of them are found in single specimens now and again. The species do not differ in any important point from the foregoing or the two following genera, and the mouth parts are well shown Pl. I, figs. 34, 35.

The species are found on flowers, rarely on old dead trees or beneath loose bark.

I.—*Anal style short and truncate.*

Piceous, covered with sericeous brown hair; elytra with a double cinereous spot each side, behind the middle. 7—8 mm.; Kansas.....1. **4-punctata**.
Dull black; thorax, pygidium and elytra sprinkled with small rounded spots of silvery pubescence; elytra with a narrow interrupted band behind the middle, composed of confluent spots. 3—4 mm.; Northern States.

2. **borealis.**

II.—*Anal style long and slender.*

♂ Last joint of maxillary palpi scalene, triangular.

A.—Pubescence above dark; without conspicuous markings.

Deep black, finely pubescent; base of thorax broadly rounded at middle. 5—7 mm.; Middle, Southern and Western States.....3. **melana**.

Black; pubescence above dull or brownish, sometimes with cinereous hair intermixed; beneath black; margin of ventral segments more or less cinereous. 3—6 mm.; United States and Canada.....4. **scutellaris**.

B.—Pubescence above black, with orange or grayish colored spots.

Occipital margin, base of thorax with two projections on each side, an irregular spot surrounding the humerus, and a lunate spot near the tip of the elytra clothed with fine orange pubescence. 7—8 mm.; Fla...5. **inflammata**.

Head grayish pubescent; thorax with reticulated lines of grayish yellow hair; elytra with a curved basal spot, a narrow oblique one behind the humerus, a rounded sub-sutural one at the middle and a reniform spot one-fourth from the tip more or less fulvous pubescent; beneath spotted with cinereous pubescence. 6—7 mm.; Mid., South. & West. Sts...6. **8-punctata**.

C.—Pubescence above black, varied with cinereous markings.

Antennæ and front legs black.

Thorax cinereous, pubescent, with large black spots.

Elytra with small cinereous markings more or less confluent; beneath, varied with cinereous and black. 3—5 mm.; United States...7. **marginata**.

Elytra with a narrow sutural line, margin, and an oblique vitta from the humerus to beyond the middle, cinereous. 4 mm.; Maryland, Michigan, Virginia, Illinois.....8. **lunulata**.

Antennæ and front legs testaceous.

Thorax and elytra speckled with small rounded unequal cinereous spots; an interrupted band behind the middle and tip of the elytra cinereous; beneath, varied with cinereous and black. 4 mm.; New York, Michigan and Ohio.....9. **serval**.

Unusually narrow; elytra with two cinereous transverse bands, suddenly angulate near the suture. 3 mm.; Florida.....10. **angulata**.

♂♂ *Last joint of maxillary palpi broad, securiform.*

Elytra with a large basal band, including each side a round black spot, and an interrupted band behind the middle cinereous; beneath varied with cinereous; (maxillary palpi of ♂ much larger than in ♀ and excavated at tip). 5.—6.5 mm.; Mid., South. & West. States.....11. **oculata**.

Elytra with an oblique band running from the humerus nearly to the suture, a transverse spot behind the middle, and entire suture cinereous; beneath varied with cinereous. 5 mm.; Kansas, Texas.....12. **insulata**.

♂♂♂ *Last joint of maxillary palpi almost an isosceles triangle.*

Body entirely black; thorax cinereous pubescent with large black spots.

Elytra with a broad basal band, including on each side two spots, and two oblique undulated bands of cinereous hair. 3—4 mm.; Middle, Southern and Western States.....13. **triloba**.

Elytra with a broad basal band, including on each side a large black spot, a band just behind the middle, and tip cinereous. 3 mm.; Middle and Southern States.....14. **undulata**.

Elytra with apex and a broad transverse band before the middle cinereous; antennæ and front legs fusco-testaceous; anal style unusually long. 2.5 mm.; Texas.....15. **fascifera**.

Head, thorax, and elytra partly yellow.

Black; antennæ, feet, middle of pectus, and occiput yellow; thorax yellow with a large triangular apical spot reaching nearly to the base; elytra with an oblique humeral vitta connected with a band before the middle; another behind the middle, apex, and margin and suture behind the second band, yellow. 2—3 mm.; Mid. & South. States.....16. **discoidea**.

1. **M. quadri-punctata** Say, Journ. Ac. Nat. Sc. Phil. iii, 276, (*Anaspis*).

One of the rare species; I believe I have seen only a single specimen, and from that is made the figure Pl. I, fig. 36; fig. 37, palpus.

2. **M. borealis** Lec. Pr. Ac. Nat. Sc. Phila. xiv, 46. (Pl. I, fig. 39).

This figure is that of a rather distinctly marked variety. I have none which agree exactly with Dr. LeConte's description, but my specimens show such a variation amongst themselves, that I would not dare to describe this as new. The type form has the pubescent spots less regularly disposed, and has an obsolete transverse band behind the middle.

3. **M. melana** Germ. sp. nov. p. 169. (Pl. I, fig. 33).

The largest of our northern species. During the summer of 1881 I collected it quite plentifully in the Adirondack Mts., N. Y., and thus had an opportunity to note its variations; these consist only in the size of the specimens, and somewhat in their proportionate stoutness; some of them appearing more slender, and showing a decided approach to the *scutellaris* form. The anal style is sometimes so short as to bring the insect more properly into the section with the foregoing species, but usually it is of moderate length. The form of the thorax will suffice to separate it from allied species. The genus *Sphalera* Lec. based on this species has been abandoned by its author as untenable, (Pr. Ac. Nat. Sc. Phila. xiv, p. 46).

4. **M. scutellaris** Fabr. Syst. El. ii, 123; *irrorata* Lec. Pr. Ac. Nat. Sc. Phila. xiv, 46.

An exceedingly variable species, but somewhat local in its variations. What may be regarded as the typical form with white scutel and strongly marked cinereous pubescence of the ventral segments, I have seen only from Texas and Louisiana, further north the *irrorata* form begins to predominate, and in New York State it is almost the only form; the typical *scutellaris* form being rare, but the intergrades more common. In the Adirondack Mts. I took a very large number of specimens, and they varied all the way from the typical southern form to the northern form with dull black pubescence with some whitish hair intermixed and dark under side. If varieties are to be recognized, *irrorata* Lec. will have a good claim to rank as such.

5. **M. inflammata** Lec. Pr. Ac. Nat. Sc. Phila. 46. (Pl. I, fig. 40).

Very readily recognized by the bright pubescent spots, arranged as shown in the figure. It appears to be found only in Florida. At least I have never heard of its being taken elsewhere.

6. **M. octo-punctata** Fabr. Syst. El. ii, 123. (Pl. I, fig. 41).

The pubescent spots in this species are much more yellow than orange,

although single specimens tend to that shade. The markings are usually very sharply outlined, and variation is only in size.

7. **M. marginata** Mels. Pr. Ac. Nat. Sc. Phila. ii, 312; *lineata* Mels. id. p. 313. (Pl. I, fig. 42).

These two species of Melsheimer I consider identical, the difference between the two expressed in words is, *marginata*—"elytra with small cinereous markings, more or less confluent;" *lineata*—"markings confluent into narrow lines." I have specimens collected by myself that it would puzzle the most ingenious to place if the two are to be regarded as distinct. I have found it in the Orange, Catskill and Adirondack Mts.

8. **M. lunulata** Hel. Pr. Ac. Nat. Sc. Phila. xvii, 96; *obliqua* Lec. Pr. Am. Philos. Soc. xvii, 428. (Pl. II, fig. 1).

These two species are without doubt identical; Dr. LeConte's type of *obliqua* which I have seen has the cinereous vitta very distinctly marked, but of the other specimens in his collection not one equals his type in this respect, and one of them at least might serve for just such a description as Dr. Helmuth gives; the type of *lunulata* was probably a somewhat rubbed specimen. Very few specimens are known, and *all* are in Dr. LeConte's collection.

9. **M. serval** Say, Bost. Journ. Nat. Hist. i, 191. (Pl. II, fig. 2).

Rather rare, and no two specimens seem alike; one, found on Long Island, is dark fuscous, but agrees perfectly in the markings with entirely black specimens; the transverse elytral band varies somewhat, but never enough to raise any doubt as to the identity of the species.

10. **M. angulata** Lec. Pr. Am. Philos. Soc. xvii, 427. (Pl. II, fig. 3).

I have seen the type. It is comparatively narrower than the other species of this genus, and has more the superficial appearance of *Mordellistena*. The markings are well shown in the figure.

11. **M. oculata** Say, Bost. Journ. Nat. Hist. i, 190; *jovialis* Lec. Pr. Am. Philos. Soc. xvii, 428. (Pl. II, fig. 4).

This species does not seem to vary much except in the comparative distinctness of the markings. I have seen Dr. LeConte's type of *jovialis*, and it is only a perfectly fresh and unusually distinctly marked specimen of *oculata*. I have carefully compared it with all the specimens under my control, and I have not a doubt as to the correctness of my conclusion.

12. **M. insulata** Lec. Col. Kans. p. 16. (Pl. II, fig. 5).

A very well marked species and readily recognizable by the cinereous sutural line; the species is rather uncommon, and I have been unable to note any peculiarities.

13. **M. triloba** Say, Jour. Ac. N. Sc. Phil. iii, 276, (*Anaspis*). (Pl. II, fig. 6).

The specimens I have examined present no particularly interesting variations. Dr. LeConte, in Proc. Am. Philos. Soc. xvii, 427, mentions a variety from Florida, in which the bands are narrower, and which varies slightly in other respects from the type form.

14. **M. undulata** Mels. Pr. Ac. Nat. Sc. Phila. ii, 316. (Pl. II, fig. 7).

Apparently very rare; I have seen only a single specimen from Dr. LeConte's collection and this seems to present nothing especially noteworthy.

15. **M. fascifera** Lec. Pr. Am. Philos. Soc. xvii, 427. (Pl. II, fig. 8).

I have seen the type and from it the figure was made.

16. **M. discoidea** Mels. Pr. Ac. Nat. Sc. Phila. ii, 315. (Pl. II, fig. 9).

The smallest and prettiest of our species of this genus. It is rare, and I have found but a single specimen, and that on Long Island; the figure is made from that specimen; there is said to be a variety with only two transverse bands on the elytra, but this I have not seen.

GLIPODES Lec.

Species cuneiform; narrow, fuscous, covered with dense sericeous brown pubescence. Scutel rounded, triangular; anal style moderately long; hind tibia without subapical ridge; carinate along dorsal line and furnished with a long oblique ridge on outer surface, connected with dorsal ridge near tip; first joint of hind tarsi with two oblique ridges; eyes coarsely granulated; antennæ feebly serrate. Last joint of maxillary palpi scalene, triangular.

Very unsatisfactorily separated from *Mordellistena* by the characters given in the description of the genus. There are only two species known, and they resemble each other very closely so far as superficial appearance is concerned. In the ♂ of *G. sericans* Mels. the maxillary palpi are covered on the under surface with a dense brush of fine short hair; in the same sex there is at the base of the last joint an external articulated bifurcated appendage the branches of which are as long as the joint; no trace of this is seen in the ♀. For tibia and tarsi see Pl. II, fig. 10.

A.—Labial palpi with last joint emarginate.

Cuneiform, elongate, fuscous, densely clothed with sericeous brown pubescence.

6—8 mm.; Middle and Southern States.....1. **sericans**.

B.—Labial palpi with the last joint truncate.

Almost linear; fuscous, densely clothed with sericeous brown pubescence.

4.5 mm.; Georgia.....2. **helva**.

1. **G. sericans** Mels. Journ. Ac. Nat. Sc. Phila. ii, 312, (*Mordella*).

2. **G. helva** Lec. Pr. Ac. Nat. Sc. Phila. xiv, 48.

MORDELLISTENA Costa.

Scutellum rounded, triangular; anal style long and slender; hind tibia with a subapical short transverse ridge, and from one to five oblique ridges on the outer face; hind tarsi with oblique ridges; eyes coarsely granulated; antennæ feebly serrate; last joint of maxillary palpi triangular.

Containing the greatest number of species, and divided into readily recognizable divisions according to the number of the tibial and tarsal ridges. Generally there is very little variation in the species and they appear to be remarkably local—some species being almost exclusively found in one vicinity and appearing nowhere else within miles, even though the same kinds of flowers may be equally abundant. Mountainous country seems to be especially favored by these insects, for while I never found more than half a dozen specimens in a single day on the flats around New York, and never more than two or three specimens of a species, a single days collecting in the Orange Mts. of N. J., yielded hundreds of specimens, and a gratifying number of species; a cluster of flowers usually containing several specimens of one species, and I can not recollect that I ever found two species of *Mordellistena* together on the same cluster of flowers. Three weeks collecting in the Adirondack's yielded thousands of specimens of the group *Mordellidæ*, among which were some new species, and some which were very rare; in the Catskill's also the species are plentiful, and in them as well as the Adirondack's, *Rhipiphorus stylopides* was common. For parts, see Pl. II, figs. 12—14.

There appear to be no external sexual peculiarities. The species are numerous on flowers and are frequently elegantly colored.

I.—*Hind tibia and first joint of hind tarsi each with a single short oblique ridge near tip.*

Narrow, parallel; black; elytra with two orange bands; first near base, and interrupted by suture; second, one-fourth from tip; head, feet, (except hind femora), antennæ and anus testaceous; thorax sometimes black, sometimes rufous. 2—2.5 mm.; Southern States.....1. **bicinetella.**

II.—*Hind tibia with two oblique ridges on outer face.*

A.—Ridges converging above.

First joint of tarsi with *two*, second with *one* oblique ridge.

Slender cuneiform; uniform brownish-yellow. Ridges of hind tibia long; strongly marked. 3 mm.; Pennsylvania, New York:.....2. **arida.**

Ridges less long, and less strongly marked. 3 mm.; Pa., Ga.....3. **lutea.**

B.—Ridges parallel, equal.

First joint of tarsi with *two*, second with *one* oblique ridge.

Elytra black, with two transverse yellow bands interrupted at suture; body narrow, parallel.

- Body black; head rufous; thorax black, basal margin and sides dark yellow; feet and abdomen tinged with testaceous. 2—2.5 mm.; United States.....4. **trifasciata**.
- Body yellow; thorax yellow; abdomen and hind tibia and tarsi varied with black. 2—3 mm.; United States.....5. **lepidula**.
- Above pale, large frontal spot, discoidal spot and anterior angles of thorax, suture and sides of elytra blackish; feet and hind coxæ pale, metasternum and abdomen blackish. 3 mm.; Middle States.....6. **limbalis**.
- Yellow; above clothed with dense sericeous pubescence; apical margin of thorax, suture, broad median band and apex of elytra dark fuscous. 2.5 mm.; Long Island.....7. **elegantulus**.
- Fuscous, linear; head, thorax, antennæ, anus, anterior and middle feet, and posterior tibiæ and tarsi reddish-yellow; elytra with light brown pubescence; suture and lateral margin narrowly piceous. 2.3 mm.; Illinois.....8. **dimidiata**.
- Black; elytra with a reddish-yellow oval humeral spot; basal joints of antennæ, palpi, tibiæ, tarsi and abdomen reddish. 3 mm.; Illinois, New York.....9. **biplagiata**.
- Black; mouth, front legs and elytra piceous; pubescence of elytra dark brown, with light hair intermixed. 2.5 mm.; Illinois, New York.
10. **intermixta**.
- Black; pubescence gray, sericeous. 2—3 mm.; California.....11. **villis**.
- Entirely luteous. 2—3 mm.; New York, Pennsylvania.....12. **vapida**.
- First and second joints of hind tarsi each with *two* oblique ridges.
- Narrow, parallel; body yellow, head behind antennæ blackish; thorax with front half yellow, with a median cloud; hind half black; elytra black with a large elongate basal spot; margin and suture behind the middle, yellow. 3 mm.; Western States.....13. **decorella**.
- Black; mouth, front, two small spots on apical margin of the thorax, and anterior feet reddish-yellow; pubescence light brown sericeous. 2—3 mm.; Illinois, New York.....14. **bipustulata**.
- Fulvo-piceous with fine dense sericeous pubescence, head slightly paler; tibial ridges more oblique than usual. 4 mm.; New York.....15. **atriceps**.
- First joint of hind tarsi with *three*, second with *one* oblique ridge.
- Piceous, clothed with brown sericeous pubescence; elytra paler, piceo-testaceous. 4 mm.; New York, Georgia.....16. **picipennis**.
- Piceous; legs pale, elytra rufous, suture and margin blackish; tibia with a distinct rudiment of a third ridge. 2.5 mm.; N. Y.....17. **pallipes**.
- Head, thorax and feet red-yellow; elytra fuscous with the humeri and apical margin reddish-yellow; abdomen, sternum, hind coxæ and femoræ blackish. 2—3 mm.; Illinois, New Jersey 18. **fulvicollis**.
- First joint of hind tarsi with *three*, second with *two* oblique ridges.
- Red-yellow, base of thorax and elytra black; the latter with a large triangular basal spot on each, suture, and margin behind middle narrowly yellow. 3—4 mm.; Middle and Southern States. 19. **ornata**.
- Black; head and humeral spot of elytra red-yellow; anterior feet yellow; hind feet black varied with testaceous. 2—3 mm.; Middle and Northern States.....20. **militaris**.
- Black; elytra with an orange-yellow humeral spot. 4 mm.; Middle and Western States.....21. **scapularis**.

- Black; head wholly or partly reddish, thorax rufous, usually black at base, or with a dorsal cloud; legs varied with testaceous. 3—4 mm.; United States.....22. **comata**.
- Black, linear; pubescence brownish-gray; hind tibia with a trace of a third ridge. 2—3 mm.; United States.....23. **aspera**.
- Rufopiceous; pubescence dense brown sericeous; elytra darker, with a large indistinct paler basal spot; legs and antennæ more rufous. 3—4 mm.; New York.....24. **indistincta**.
- Pale yellowish-brown, subcuneate, hind tibia with a faint trace of a third ridge. 3 mm.; Georgia, New York.....25. **tosta**.
- First joint of hind tarsi with *four*, second with *three* very oblique ridges.
Tibia with a rudiment of a third ridge; fulvous yellow. 3 mm.; Texas.
26. **inornata**.
- C.—Ridges parallel; anterior extending almost across the outer face of the tibia.
First joint of hind tarsi with *two*, second with *one* oblique ridge.
- Elytra as in 4 and 5; head, thorax and feet, yellow; thorax with a narrow dorsal cloud; trunk blackish. 2.5 mm.; Georgia.....27. **amica**.
- Elytra as before; black; antennæ, tibia and tarsi, yellow; pubescence rather long and coarse. 1.5 mm.; Georgia.....28. **minuta**.
- Entirely black, pubescence grayish; mouth and basal joints of antennæ piceous. 2 mm.; Illinois.....29. **picilabris**.
- First joint of hind tarsi with *three*, second with *two* oblique ridges.
- Black, covered with cinereous pubescence; elytra with two broad bands, and apex black, pubescent. 2 mm.; South. California.....30. **infima**.
- Elytra yellow, with base, tip, suture and a large oblong marginal spot black.
- Head, thorax and body, black; antennæ and legs yellow. 2 mm.; Middle States.....31. **andree**.
- Head, thorax and body, yellow; abdomen blackish. 2.5 mm.; Georgia, New York.....32. **grammica**.
- Elytra ferruginous; suture and margin blackish.
- Black; mouth, anterior feet, hind tibia and tarsi testaceous, incisures black; anus piceous. 2 mm.; Georgia, New York.....33. **ancilla**.
- Black; head and part of thorax reddish-yellow; anterior feet yellow; hind tibia and tarsi testaceous; incisures black. 2.5—3 mm.; Middle States.....34. **varians**.
- Ferruginous; black limb of elytra very narrow; abdomen and sometimes hind coxæ and pectus blackish. 3 mm.; Middle and Southern States.....35. **ustulata**.
- Elytra without distinct markings.
- Piceous; head, thorax and anterior legs ferruginous, humeri with an indefinite ferruginous spot; anus rufo-piceous. 2—3 mm.; Middle and Southern States.....36. **semiusta**.
- Piceous; head, apical margin of thorax, and anterior legs ferruginous. 2 mm.; South Carolina, New York.....37. **impatiens**.
- Fusco-ferruginous; elytra black, pubescence fine and dark. 3 mm.; Georgia.....38. **ferruginoides**.
- Entirely blackish, piceous. 2 mm.; Middle and Southern States.
39. **nigricans**.

- Black; mouth piceous, elytra with numerous spots of cinereous pubescence. 3 mm.; Illinois.....40. **guttulata**.
- Blackish piceous; head ferruginous; antennæ, anterior feet, middle tibia and tarsi, base of hind tibia and tarsi, and margin of abdomen, testaceous; first joint of hind tarsi with a rudiment of a fourth ridge. 3 mm.; Middle and Southern States.....41. **ruficeps**.
- Ferruginous; sides of pectus and elytra darker; hind tibia with a rudiment of a third, first tarsal joint with a rudiment of a fourth ridge. 3 mm.; California.....42. **nubila**.
- First joint of hind tarsi with *four*, second with *two* oblique ridges.
- Ridges not strongly marked; legs unusually long and slender, piceotestaceous; densely clothed with fine silvery pubescence. 6 mm.; Illinois, Florida.....43. **splendens**.
- First joint of hind tarsi with *four*, second with *two* oblique ridges.
- Ridges more strongly marked than usual; narrow, linear; entirely black. Florida.....44. **floridensis**.
- III.—*Hind tibia with three short oblique parallel ridges.*
- First joint of hind tarsi with *three*, second with *two* oblique ridges.
- Black, linear; elytra with numerous rounded spots of ashy sericeous pubescence. 2—3 mm.; United States.....45. **pustulata**.
- Black, linear, elytra with lines of brownish-gray pubescence confluent behind. 3 mm.; Kentucky.....46. **convicta**.
- Nearly linear, ferruginous; elytra black with the suture and margin narrowly ferruginous; base ferruginous, broader at the humeri. 4—5 mm.; Middle States.....47. **fuscipennis**.
- Subcuneate; beneath ferruginous; abdomen and sides of breast dusky; above black; mouth, anterior narrow interrupted band of thorax, large triangular basal spot of each elytra, suture and margin behind the middle, yellow. 3.5—4 mm.; Lake Superior.....48. **pectoralis**.
- Nearly linear, entirely black; pubescence brownish-gray. 3—4 mm.; Lake Superior, Minnesota, New York.....49. **morula**.
- Nearly linear; fusco-ferruginous; pubescence brown sericeous; ridges of hind tibia longer and more oblique than usual. 3—4 mm.; Middle and Southern States.....50. **ambusta**.
- First joint of hind tarsi with *three*, second with *two*, and third with *two* oblique ridges.
- All the ridges strongly marked; ferruginous, elytra black; pubescence fine and dark. 5 mm.; Georgia.....51. **singularis**.
- First joint of hind tarsi with *four*, second with *two* oblique ridges.
- Slightly cuneate piceous; covered with brown sericeous pubescence. 3—4 mm.; United States.....52. **unicolor**.
- Subcuneate; black, pubescence brown, head and anterior half of thorax ferruginous; the former sometimes with a black spot. 3—4 mm.; Middle and Western States.....53. **marginalis**.
- Ferruginous; elytra black, with a small, indistinct humeral spot ferruginous; abdomen blackish, anterior margin of ventral segments rufous; legs pale. 3 mm.; New York.....54. **Schauppii**.
- First joint of hind tarsi with *four*, second with *three* oblique ridges.
- Narrow, linear; entirely black. 5 mm.; North. Illinois.....55. **æqualis**.

IV.—*Hind tibia with a rudiment of a fourth ridge.*

First joint of hind tarsi with *three*, second with *two* oblique ridges.

Black, mouth and anterior feet piceous; pubescence grayish-brown; thorax with three black clouds; elytra with an undulated band before the middle and a large oblong spot near tip, fuscous. 4 mm.; Ills.....56. **scalaris.**

Blackish piceous, more robust than usual, pubescence brownish; thorax with three black spots; elytra with a curved band from humerus to suture, a transverse band behind the middle, and another at tip, sericeous pubescent. 2—2.5 mm.; United States.....57. **pubescens.**

Black, slender; sides of thorax and legs piceo-testaceous; elytra with a very narrow limb and two oblique bands, prolonged backward near the suture, connected by a line near the margin, and apex paler sericeous. 3—5 mm.; Pennsylvania.....58. **bihamata.**

Fusco-luteous, slender; thorax with three badly defined basal clouds; elytra with a narrow limb and two very oblique bands yellowish sericeous. 2—3 mm.; Middle and Southern States.....59. **litrata.**

V.—*Hind tibia with four short oblique parallel ridges.*

First joint of hind tarsi with *three*, second with *two* oblique ridges.

Fusco-testaceous; subcuneate; pubescence fulvous sericeous. 4—5 mm.; New York, Pennsylvania.....60. **fuscata.**

First joint of hind tarsi with *three*, second and third each with *two* oblique ridges.

Ferruginous; elytra black with the humeri indistinctly ferruginous; suture and margin narrowly pale sericeous. 5—6 mm.; Pa., Tex.....61. **pityptera.**

First joint of hind tarsi with *four*, second with *two* oblique ridges.

Rufo-piceous; mouth, antennæ, legs and elytra paler; pubescence fine sericeous. 6 mm.; Nevada.....62. **rufescens.**

First tarsal joint with a rudiment of a fifth ridge; all small and indistinct; blackish piceous; elytra with the humeri indistinctly ferruginous; an oblique band at base, an interrupted one behind middle and the suture, cinereous pubescent. 5 mm.; New York.....63. **cinereo-fasciata.**

Tibia and first tarsal joint with a rudiment of a fifth ridge; all indistinct; subcuneate; entirely black, pubescence gray. 4—5 mm.; Col...64. **æthiops.**

First joint of hind tarsi with *four* and a rudimentary *fifth*, second with *three* oblique ridges.

Black, with sericeous pubescence; head, thorax and front legs ferruginous. 5 mm.; Texas.....65. **Texana.**

First joint of hind tarsi with *four*, second and third each with *three* oblique ridges.

Very slender, dark fuscous; base of antennæ, anterior and middle feet piceous; pubescence brown sericeous. 3.5 mm.....66. **fusco-atra.**

First joint of hind tarsi with *five*, second with *three* oblique ridges.

Black; pubescence of head and thorax with the suture and margin narrowly gray. 4.3 mm.; Illinois.....67. **sutarella.**

First joint of hind tarsi with *five*, second with *three*, third with *two* oblique ridges.

Black; pubescence of head and thorax brownish, of elytra black, with the suture narrowly gray; abdomen rufous varied with black. 5 mm.; Illinois.

68. **rufiventris.**

First joint of hind tarsi with *five*, second with *four*, and third with *three* small oblique ridges.

Very slender; entirely black; pubescence fine and dark. 5.8 mm.; Georgia.

69. **angusta.**

VI.—*Hind tibia with five or six very small oblique ridges.*

Black; head and sometimes base of thorax ferruginous; elytra with a ferruginous stripe from humerus nearly to the apex. 4—5 mm.; Pennsylvania, New York.....70. **attenuata.**

Black; pubescence sericeous brown; elytra blackish with a long basal spot, an undulated band behind the middle, suture and tip paler sericeous. 3.5—4 mm.; Middle and Southern States.....71. **discolor.**

Black; pubescence grayish sericeous, slightly mottled. 4 mm.; Kansas.

72. **æmula.**

1. **M. bicinctella** Lec. Pr. Ac. Nat. Sc. Phila. xiv, 48. (Pl. II, figs. 15, 16).

Rare; not found so far as I know except in Dr. LeConte's collection and the figure is made from his type.

2. **M. arida** Lec. Pr. Ac. Nat. Sc. Phila. xiv, 48. (Pl. II, fig. 17).

Found occasionally in New York; I believe it will be eventually found to be identical with the following, but it needs a larger series than I have been able to get to prove this.

3. **M. lutea** Mels. Pr. Ac. Nat. Sc. Phila. ii, 315, (*Mordella*).

Quite as rare as the preceding, and I have seen only a single specimen.

4. **M. trifasciata** Say, Journ. Ac. Nat. Sc. Phila. v, 243, (*Mordella*); *nigricollis* Hel. Pr. Ac. Nat. Sc. Phila. xvi, 105. (Pl. II, fig. 19).

This latter is evidently a variety only, as Dr. Helmuth himself suggests. I have found specimens of this species with the thoracic band of yellow very narrow, but none in which it was entirely absent; larger collections from the western states will, I have no doubt, demonstrate the correctness of this reference.

5. **M. lepidula** Lec. Pr. Ac. Nat. Sc. Phila. xiv, 48. (Pl. II, fig. 19).

Very closely allied to the preceding in size, form and general appearance; but readily recognized by the yellow body. The insect appears rare in the vicinity of New York, and I have but very few specimens.

6. **M. limbalis** Mels. Pr. Ac. N. Sc. Phil. ii, 315, (*Mordella*). (Pl. II, fig. 20).

Also closely allied to the foregoing species so far as form is concerned, but the markings are entirely different. This like *lepidula* is rather rare in New York and vicinity, and the specimens are only found singly. I have not noticed any variations.

7. **M. elegantulus** Sp. nov. (Pl. II, fig. 21).

Differs from the other species in this section by the pale color and brown markings. One specimen only, from Long Island; my collection.

8. **M. dimidiata** Hel. Pr. Ac. Nat. Sc. Phila. xvi, 105.

This species I have not succeeded in identifying with the material at my command. It appears sufficiently distinct, from the description, and seems to form the connecting link between the variegated species of this section and the following more modestly colored ones.

9. **M. biplagiata** Hel. Pr. Ac. Nat. Sc. Phila. xvi, 105. (Pl. II, fig. 22).

A variable species both as regards size and markings; a specimen from northern Illinois, found among Dr. LeConte's undetermined material, agrees in all respects with Helmuth's description, and from this the figure was made. A specimen collected in the Catskills while agreeing perfectly in the markings is only 1.7 mm. in length; another collected in the Adirondack's is nearly 4 mm. in length and the humeral spot is unusually large and diffuse. The coloration in other respects is a little different, but not enough to authorize a sp. nov. Readily distinguished from the other species in this section by the humeral spot of the elytra.

10. **M. intermixta** Hel. Pr. Ac. Nat. Sc. Phila. xvii, 96.

Readily recognized by the contrast in color between the thorax and elytra, the latter of which is sometimes more rufous. Specimens from California and New York, (Adirondack Mts.), agree in every respect with each other and with the description. I have found it rather rare.

11. **M. vilis** Lec. Pr. Ac. 1856, p. 76, (*Mordella*).

I have seen but very few specimens; differs from all other species in this section by its uniform black color.

12. **M. vapidula** Lec. Pr. Ac. Nat. Sc. Phila. xiv, 49.

Does not seem to vary much. I have found it occasionally in the vicinity of New York.

13. **M. decorella** Lec. Pr. Ac. Nat. Sc. Phila. xiv, 49. (Pl. II, fig. 24).

Distinguished from the others in this section by the variegated elytra. I have seen only a single specimen (Dr. LeConte's type), so do not know much of it. The combination of tibial and tarsal ridges peculiar to this and the two following species is shown Pl. II, fig. 23.

14. **M. bipustulata** Hel. Pr. Ac. Nat. Sc. Phila. xvi, 105.

I have what I consider a specimen of this species with the thorax entirely black, collected in New York; readily distinguished from the other species of this group by its dark color.

15. **M. atriceps** sp. nov.

Distinguished from the preceding by the paler color, larger size, heavier form, and the longer and unusually oblique tibial ridges. One specimen only; my collection.

16. **M. picipeunis** sp. nov.

The combination of tibial and tarsal ridges peculiar to this and the two following species is shown Pl. II, fig. 25. Distinguished from the others in this group by not having the elytra variegated. Three specimens, New York; two, my collection; Georgia, one, Coll. Dr. Horn.

17. **M. pallipes** sp. nov. (Pl. II, fig. 26).

All the legs pale testaceous—an unusual character in the genus—this point and the darker margins of elytra render the species readily recognizable. The rudiment of the third ridge is very short, having but two or three spinules but the pale color of the legs renders it easily noted, as the spinules are black. One specimen, Ithaca, N. Y.; my collection.

18. **M. fulvicollis** Mels. Pr. Ac. Nat. Sc. Phila. ii, 315, (*Mordella*). (Pl. II, fig. 27).

Easily known from the others in this group by the humeral spot on elytra and the pale thorax. It appears to be rare and I have seen only a single specimen.

19. **M. ornata** Mels. Pr. Ac. Nat. Sc. Phila. ii, 315, (*Mordella*). (Pl. II, fig. 30).

The combination of tibial and tarsal ridges peculiar to this and the seven following species is shown Pl. II, fig. 29. I have seen but a single specimen of this insect, and consequently have no remarks to offer concerning it.

20. **M. militaris** Lec. Pr. Ac. Nat. Sc. Phila. xiv, 49. (Pl. II, fig. 28).

This will probably turn out to be only a variety of the following when more of the specimens from other parts of the country have been procured. I have seen only very few specimens and they agree pretty closely with the description; a variety however is found with the thorax more or less rufous, never having the color distinctly marked, but still differing noticeably from the type form.

21. **M. scapularis** Say, Pr. Ac. Nat. Sc. Phila. iii, 277, (*Mordella*). (Pl. II, fig. 31).

More common than the preceding but by no means plentiful at any time. It is entirely black except the orange humeral spot which leads to its recognition at once.

22. **M. comata** Lec. Pr. Ac. 1858, p. 75, (*Mordella*); *picicornis* Lec. Pr. Ac. Nat. Sc. Phila. xiv, 49; *cervicalis* Lec. id.; *auricoma* Hel. id. xvii, 96.

From the material I have on hand I consider these four forms identical; *picicornis* and *cervicalis* certainly are, for I have series leading from one form into the other; *comata* differs in the entirely red head and the paler pubescence; but the color of the pubescence in this genus is not a safe guide, nor is the extent of the red color on the head; *auricoma* does not differ in any marked respect from either of the forms.

23. **M. aspersa** Mels. Pr. Ac. Nat. Sc. Phila. ii, 314, (*Mordella*) ; *rubrilabris* Hel. id. xvi, 105.

The most common of our species and the one therefore upon which observations can best be made; its variations are considerable and it is rather surprising that not more species have been made out of it. The legs vary from pale testaceous to dull black, the pubescence from dull brownish-black to bright cinereous, and the head from deep black to dull red; the latter is *rubrilabris* of Hel. The eastern species are usually dull black, the pubescence becoming brighter as they come from further west, until California sends the palest specimens. In like manner the color of the head changes gradually from black in the east to dull red in the Pacific States. From New York I have seen no specimens with the head entirely red, although many have it partially so, but a fair proportion of California specimens have the head entirely rufous.

24. **M. indistincta** sp. nov. (Pl. II, fig. 32).

Easily known by the pale color and the indistinct basal spot on elytra; it seems to connect the black species with the following. Seventeen specimens, Adirondack Mts., N. Y.; my collection.

25. **M. tosta** Lec. Pr. Ac. Nat. Sc. Phila. xiv, 49.

Not uncommon in N. Y., and presenting no noteworthy variations.

26. **M. inornata** sp. nov.

Like the preceding in color, but distinct by the combination of tibial and tarsal ridges, Pl. II, fig. 33. One specimen, Texas; Coll. Dr. LeConte.

27. **M. amica** Lec. Pr. Ac. Nat. Sc. Phila. xiv, 49. (Pl. II, fig. 19).

Combination of tibial and tarsal ridges peculiar to this and the two following species, Pl. II, fig. 34. Superficial examination would lead one to pronounce this and the following identical with the species at the head of the genus, but the ridges separate them sharply.

28. **M. minuta** sp. nov. (Pl. II, fig. 35).

One of the smallest, if not the smallest of our species; very distinctly separated from the foregoing by the coloration of head and thorax. One specimen, Georgia; Coll. Dr. Horn.

29. **M. picilabris** Hel. Pr. Ac. Nat. Sc. Phila. xvi, 105.

Unknown to me in nature but apparently very distinct from the others in this group.

30. **M. infima** Lec. Pr. Ac. Nat. Sc. Phila. xiv, 49. (Pl. II, fig. 37).

For combination of tibial and tarsal ridges peculiar to this and the twelve following species, see Pl. II, fig. 36. Distinct from all the others in this group by the cinereous bands on elytra.

31. **M. andresæ** Lec. Pr. Ac. Nat. Sc. Phila. xiv, 50. (Pl. II, fig. 38).

This and the four following species form a very compact group, differing only in minor points of coloration. I am certain that there are two species more than there is any necessity for, described; but I have not unfortunately, a series large enough to prove it. None of the species are common, and I have not seen any large numbers of them in any collection.

32. **M. grammica** Lec. Pr. Ac. Nat. Sc. Phila. xiv, 50. (Pl. II, fig. 39).

Differs from the foregoing in color of body, and probably sufficiently distinct from it.

33. **M. ancilla** Lec. Pr. Ac. Nat. Sc. Phila. xiv, 50. (Pl. III, fig. 1).

This species I believe will ultimately prove a variety of *andresæ*. The only difference between the two is that *ancilla* is ferruginous, where the other species is yellow.

34. **M. varians** Lec. Pr. Ac. Nat. Sc. Phila. xiv, 50. (Pl. III, fig. 2).

This I believe is a good species; it seems to present no variation, and is not uncommon in the Orange Mts.

35. **M. ustulata** Lec. Pr. Ac. Nat. Sc. Phila. xiv, 50. (Pl. III, fig. 3).

This will I believe prove only a variety of *grammica*, the difference as shown in the figures is exceedingly slim, and that shown in the synopsis is not much greater.

36. **M. semiusta** Lec. Pr. Ac. Nat. Sc. Phila. xiv, 50. (Pl. III, fig. 4).

This seems distinct from all those in the preceding group. I have seen but few specimens and have noted no variation.

37. **M. impatiens** Lec. Pr. Ac. Nat. Sc. Phila. xiv, 50,

Rather rare in my experience, and in the few specimens I have examined no great variations have been discovered.

38. **M. ferruginoides** sp. nov.

Distinct from any of the others of this group by the contrasted elytra and body. One specimen only, Georgia; Coll. Dr. Horn.

39. **M. nigricans** Mels. Pr. Ac. Nat. Sc. Phila. ii, 313, (*Mordella*); *nigerrima* Hel. id. xvii, 96.

The species varies somewhat in size and in the depth of the black color, but not otherwise; exactly how Dr. Helmuth pretended to separate his species from *nigricans* I am at a loss to imagine, his description applies in all respects to this species.

40. **M. guttulata** Hel. Pr. Ac. Nat. Sc. Phila. xvi, 105, (from the description only). (Pl. III, fig. 7).

I have not seen this insect in nature; it seems to take the place in this group that *pustulata* does in another, and may be a specimen of that species incorrectly referred.

41. **M. ruficeps** Lec. Pr. Ac. Nat. Sc. Phila. xiv, 50.

An indistinctly marked species which varies somewhat in size and somewhat in color, being sometimes more rufous. It is not common, but I find some specimens each season around New York.

42. **M. nubila** Lec. Pr. Ac. 1858, p. 76.

Of this I have seen only a single specimen; it is close to *ferruginoides*, but is darker than that species, and has in addition the rudimentary ridges on tibia and tarsi of which there exists not a trace in *ferruginoides*.

43. **M. splendens** sp. nov.

Pl. III, fig. 5, shows the combination of tarsal ridges peculiar to this species. It is unique in this respect, and unique in the beautiful silvery pubescence with which it is clothed; it is very slender, and has the legs unusually long and thin. On the specimen from Florida I observe a rudiment of a third short ridge. Two specimens only, Illinois and Florida; Coll. of Dr. LeConte and myself.

44. **M. Floridensis** sp. nov.

Closely related to the preceding, but distinct from it by the number of ridges on the second tarsal joint, the deeper color, the dark pubescence, stouter build and much shorter and stouter anal style; the ridges also are strongly marked and very distinct.

45. **M. pustulata** Mels. Pr. Ac. Nat. Sc. Phila. ii, 314, (*Mordella*). (Pl. III, fig. 7).

Combination of tibial and tarsal ridges peculiar to this and the five following species, Pl. III, fig. 6. Distinguishable at sight from its allies by the silvery pubescent spots with which it is adorned. Dr. LeConte remarks that on one specimen he observed a rudiment of a fourth ridge. I have been unable to find anything of the kind on the species which I have examined, so that his specimen is probably aberrant in this respect.

46. **M. convicta** Lec. Pr. Ac. Nat. Sc. Phila. xiv, 50. (Pl. III, fig. 8).

I have seen Dr. LeConte's type and drawn my figure from it. The species seems closely related to the preceding but is rather heavier, and differs in the markings.

47. **M. fuscipennis** Mels. Pr. Ac. Nat. Sc. Phil. ii, 314, (*Mordella*). (Pl. III, fig. 9).

Found occasionally around N. Y., and presenting no notable variations.

48. **M. pectoralis** Lec. Agassiz L. Sup. p. 231, (*Mordella*). (Pl. III, fig. 10).

I have seen one specimen only, and that the type. It is almost identical in all respects with *ornata* except that it has three instead of two tibial ridges.

49. **M. morula** Lec. Pr. Ac. Nat. Sc. Phila. xiv, 50.

Unicolored, and therefore readily recognized, after the tibia has been examined; one specimen I found which could be placed with almost equal propriety in this species or in *aspersa*, for the third ridge was rather more than a rudiment, and yet did not reach the distinctness of the others. *Quære*: whether *morula* and *aspersa* do not intergrade.

50. **M. ambusta** Lec. Pr. Ac. Nat. Sc. Phila. xiv, 50.

Also unicolored and as readily recognized as the preceding; I have found it sparingly near New York, but have noted no peculiarities.

51. **M. singularis** sp. nov. (Pl. III, fig. 11).

The figure shows the combination of tibial and tarsal ridges peculiar to this species only. Well marked by the uniform ferruginous color and the deep black elytra. One specimen only, Georgia; Coll. Dr. Horn.

52. **M. unicolor** Lec. Pr. Ac. Nat. Sc. Phila. xiv, 50. (Pl. III, fig. 12).

The figure shows the tibial and tarsal ridges peculiar to this and the two following species. Distinct from all others in this group by its uniform color, which latter varies somewhat in depth, sometimes having a strong dash of red. It is not uncommon, but I have not succeeded in getting a good series, showing varieties.

53. **M. marginalis** Say, Journ. Ac. Nat. Sc. Phila. iii, 278, (*Mordella*); *divisa* Lec. Col. of Kan. & N. Mex. 17.

This species shows little variation; superficially it is readily confused with several others but the tibial and tarsal ridges sufficiently distinguish it; *divisa* Lec. I consider only a western variation, like that of *aspersa*. I have found both forms in the Orange Mts. of New Jersey.

54. **M. Schauppil** sp. nov. (Pl. III, fig. 13).

Dedicated to my good friend Prof. F. G. Schaupp, from whom I received the first aid in my gropings for light in the beetle business, to whose kindness I owe many of my best insects, to whose good nature I owe a better knowledge of the literature of the coleopterological section of entomology than I could have obtained by years of unassisted study, and to whose liberality I owe a large part of my western and southern species of Mordellidæ, his whole collection having been placed at my disposal. I hope this may always be considered a valid species, and that it may continue as rare as the combination of good qualities which render the Professor a good companion, a sympathizing friend and a sage director in the paths of coleopterological lore. One specimen, N. Y.; my coll.

55. **M. æqualis** sp. nov. (Pl. III, fig. 14).

Peculiar by the combination of ridges on tibia and tarsi; resembles several other species in the uniform black color.

56. **M. scalaris** Hel. Pr. Ac. Nat. Sc. Phila. xvi, 105. (Pl. III, fig. 16).

The figure (Pl. III, fig. 15), shows the ridges of tibia and tarsi peculiar to this and the three following species; the present species is unknown to me; but seems to be sufficiently distinct from the other species of this group by the lack of pubescent bands on the elytra. The figure was made up from the description, and its accuracy is therefore not vouched for.

57. **M. pubescens** Fabr. Syst. El. ii, 123; *hebraica* Lec. Pr. Ac. Nat. Sc. Phila. xiv, 51; *leporina* Lec. id. (Pl. III, fig. 17).

A somewhat variable species and I believe I have series sufficient to demonstrate the identity of the above referred species. I have seen in the specimens examined variations all the way from the dark typical *pubescens* form to the bright *leporina* form, while the *hebraica* form according to Dr. LeConte's description varies in the color of the thorax to a uniform black. There is a difference in the arrangement of the pubescent bands, but I have seen all the forms in the specimens which were undoubtedly *pubescens*. It is rather common in the vicinity of N. Y.

58. **M. bihamata** Mels. Pr. Ac. N. Sc. Ph. ii, 313, (*Mordella*). (Pl. III, fig. 18).

Distinct from the preceding by the more slender form, the somewhat differently shaped bands and the reddish margin of thorax. I have seen but one specimen, and cannot therefore judge well of the exact relationship it bears to *pubescens*.

59. **M. liturata** Mels. Pr. Ac. N. Sc. Ph. ii, 314, (*Mordella*). (Pl. III, fig. 19).

Distinct from the others in this section by the pale color. It is rare, and I myself have never found the insect. I have seen but a few specimens of the species, and did not find any great variation amongst them.

60. **M. fuscata** Mels. Pr. Ac. N. Sc. Ph. ii, 313, (*Mordella*). (Pl. III, fig. 20).

The figure shows the ridges of tibia and tarsi. The color is uniform and an examination of the ridges is necessary to properly place it. It is not uncommon around New York.

61. **M. pityptera** Lec. Pr. Ac. Nat. Sc. Phila. xiv, 51. (Pl. III, fig. 22).

The combination of ridges of tibia and tarsi is shown on Pl. III, fig. 21. The only specimens I have seen are from Texas, and they vary both in size and in color; some are nearly entirely rufous, but in full colored specimens the rufous humeral spot is always very distinct.

62. **M. rufescens** sp. nov. (Pl. III, fig. 23).

The figure shows the tibial and tarsal ridges peculiar to this and the two following species. The color is uniform and affords no indication to the species. One specimen only, Nevada; Coll. Dr. Horn.

63. **M. cinereo-fasciata** sp. nov. (Pl. III, figs. 24, 25).

Readily recognized by the unusually heavy form, which recalls *Mordella*, and the combination of cinereous bands and humeral pale spot. One specimen only, Ithaca, N. Y.; my collection.

64. **M. æthiops** sp. nov.

Unicolored. Of the seven specimens that I have seen, not one varied in any way from the description given in the synopsis. Colorado; Coll. Dr. Horn and myself.

65. **M. Texana** sp. nov. (Pl. III, fig. 64, tibia and tarsi).

Another of those species having the thorax red and elytra and body black, and therefore distinguishable only by the ridges of tibia and tarsi. Two specimens, Texas; Coll. Dr. Horn and myself.

66. **M. fusco-atra** Hel. Pr. Ac. N. Sc. Ph. xvi, 105. (Pl. III, fig. 28, tarsi only).

Unknown to me, but evidently very distinct by the ridges of posterior tibia and tarsi.

67. **M. suturella** Hel. Pr. Ac. N. Sc. Ph. xvi, 105. (Pl. III, fig. 27, tarsi only).

Also unknown to me.

68. **M. rufiventris** Hel. Pr. Ac. Nat. Sc. Phila. xvi, 105.

Also unknown to me.

69. **M. angusta** Lec. Pr. Ac. N. Sc. Ph. xvi, 105. (Pl. III, fig. 29, tarsi only).

Known to me only in very few specimens, and presenting nothing notable in those I have seen.

70. **M. attenuata** Say, Journ. Ac. N. Sc. Phil. v, 243, (*Mordella*); *vittigera* Lec. Pr. Ac. Nat. Sc. Phila. xiv, 51. (Pl. III, fig. 30).

I have seen only a single specimen from Dr. LeConte's collection of the *attenuata* form, but I have seen a number of the *vittigera* form, and from its variations I conclude that the two are identical. I believe that *vittigera* is the species, and *attenuata* the variety, if varieties are to be named. According to the laws of priority of course Say's name stands for the species.

71. **M. discolor** Mels. Pr. Ac. Nat. Sc. Phila. ii, 313. (Pl. III, fig. 31).

Tibia and tarsi of this, and the preceding and following species shown at Pl. III, fig. 32. The insect is rare, and I have seen but very few specimens.

72. **M. æmula** Lec. Col. Kan. & N. Mex. 16. (Smith's Contr.).

I have seen only a single specimen and know nothing of it.

Species as yet unidentified.

Mordella nigripennis Fabr. Syst. El. p. 123.—*M. ano aculcato*, ferruginea; *elytris nigris*: Ent. Syst. Suppl. 127, 3; *statura præcedentum*, (pubescens), *corpus totum ferrugineum*, *elytris folis nigris*.

EXPLANATION OF PLATE I.

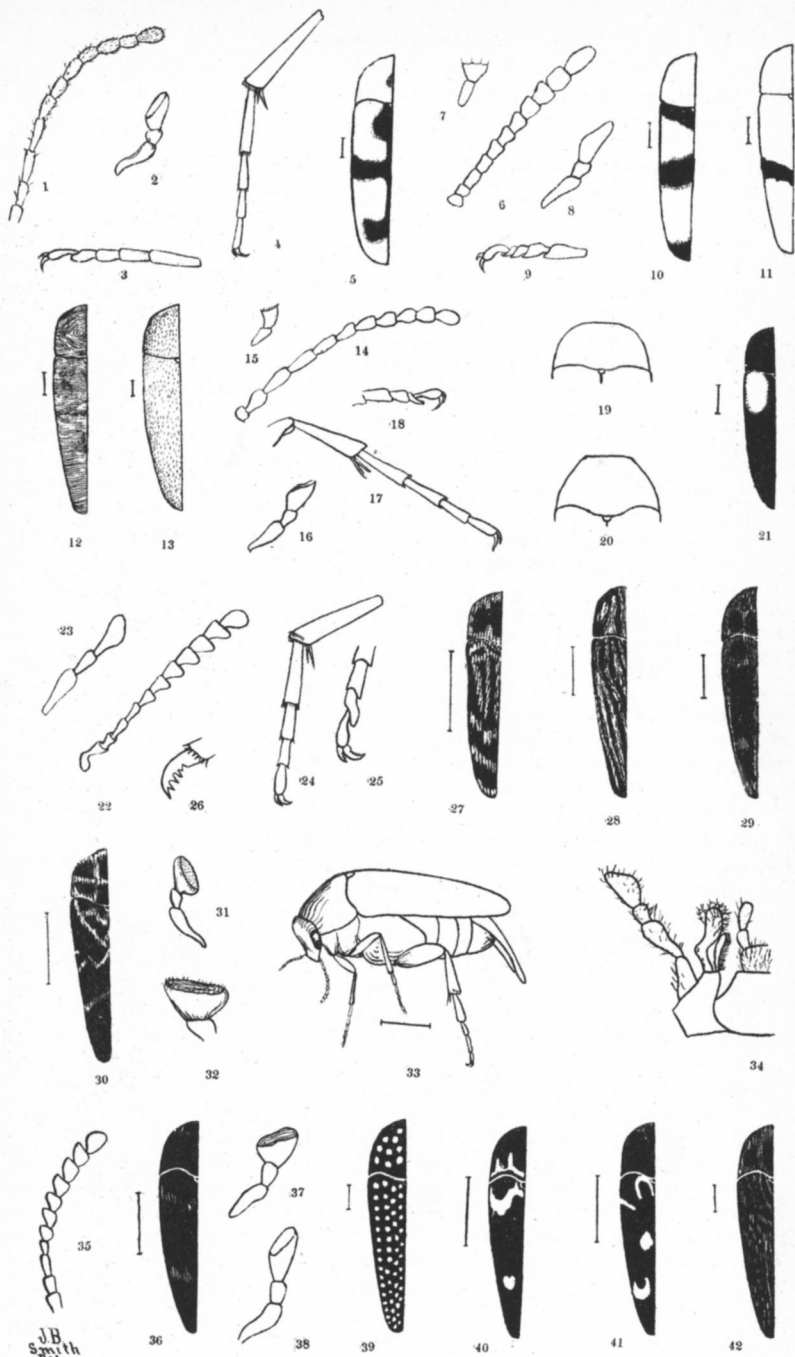
-
1. *Dictidia lætula* Lec., antenna.
 2. " " Lec., maxillary palpus.
 3. " " Lec., anterior tarsus.
 4. " " Lec., posterior tibia and tarsus.
 5. " " Lec., elytra.
 6. *Pentaria*, antenna.
 7. " labial palpus.
 8. " maxillary palpus.
 9. " anterior tarsus.
 10. " *trifasciata* Mels.
 11. " *nubila* Lec.
 12. " *fuscula* Lec., showing the transverse striation.
 13. " *hirsuta* sp. nov.
 14. *Anaspis*, antenna.
 15. " labial palpus.
 16. " maxillary palpus.
 17. " posterior tibia and tarsus.
 18. " anterior tarsus.
 19. " *pusio* Lec., (thorax only).
 20. " *atra* Lec., (thorax only).
 21. " *humeralis* sp. nov.
 22. *Tomoxia*, antenna.
 23. " maxillary palpus, (*bidentata*, see fig. 31).
 24. " posterior tibia and tarsus.
 25. " anterior tarsus.
 26. " claw of anterior tarsus.
 27. " *bidentata* Say.
 28. " *lineella* Lec.
 29. " *inclusa* Lec.
 30. " *hilaris* Say.
 31. " *lineella*, maxillary palpus.
 32. " *hilaris*, maxillary palpus.
 33. *Mordella melæna* Germ., showing the general appearance of the species in this and the following genera.
 34. " mouth parts of *scutellaris* Fab.
 35. " antenna.
 36. " *4-punctata* Say.
 37. " " Say, maxillary palpus.
 38. " *marginata*, palpus.
 39. " *borealis* Lec. (var.).
 40. " *inflammata* Lec.
 41. " *8-punctata* Fabr.
 42. " *marginata* Mels.

EXPLANATION OF PLATE II.

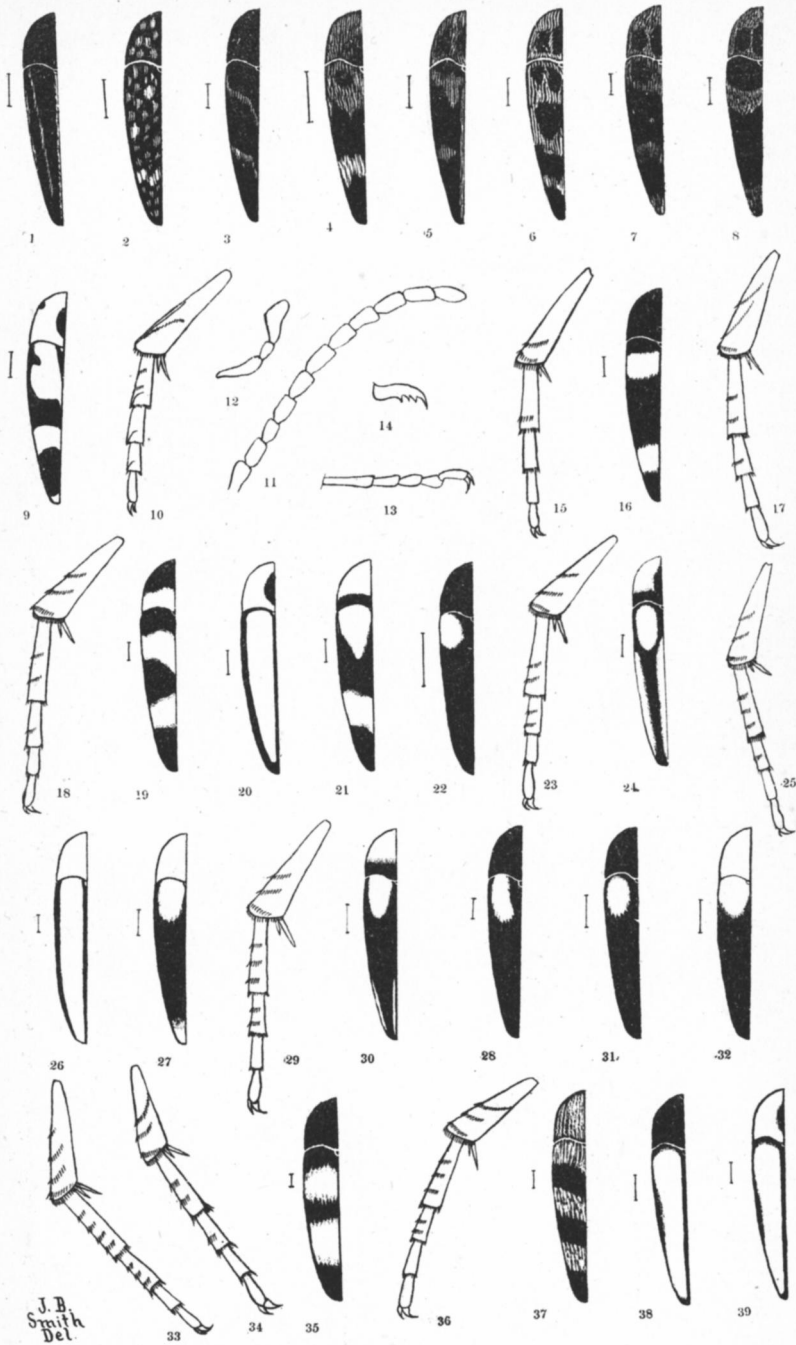
- | | |
|--|---|
| 1. <i>Mordella obliqua</i> Lec. | 20. <i>Mordellistena limbalis</i> Mels. |
| 2. " <i>serval</i> Say. | 21. " <i>elegantulus</i> sp. nov. |
| 3. " <i>angulata</i> Lec. | 22. " <i>biplagiata</i> Hel. |
| 4. " <i>oculata</i> Say. | 23. " tibia of sp. 13-15. |
| 5. " <i>insulata</i> Lec. | 24. " <i>decorella</i> Lec. |
| 6. " <i>triloba</i> Say. | 25. " tibia of sp. 16-18. |
| 7. " <i>undulata</i> Mels. | 26. " <i>pallipes</i> sp. nov. |
| 8. " <i>fascifera</i> Lec. | 27. " <i>fulvicollis</i> Mels. |
| 9. " <i>discoidea</i> Mels. | 28. " <i>militaris</i> Lec. |
| 10. <i>Glipodes</i> tibia and tarsus (posterior). | 29. " tibia of sp. 19-25. |
| 11. <i>Mordellistena</i> , antenna. | 30. " <i>ornata</i> Mels. |
| 12. " max. palpus. | 31. " <i>scapularis</i> Say. |
| 13. " anterior tarsus. | 32. " <i>indistincta</i> sp. nov. |
| 14. " claw of tarsi. | 33. " tibia of sp. 26. |
| 15. " tibia of sp. 1. | 34. " tibia of sp. 27-29. |
| 16. " <i>bicinctella</i> Lec. | 35. " <i>minuta</i> sp. nov. |
| 17. " tibia of sp. 2 & 3. | 36. " tibia of sp. 30-42. |
| 18. " tibia of sp. 4-12. | 37. " <i>infima</i> Lec. |
| 19. " <i>trifasciata</i> , <i>lepidula</i>
and <i>amica</i> . | 38. " <i>andreae</i> Lec. |
| | 39. " <i>grammica</i> Lec. |

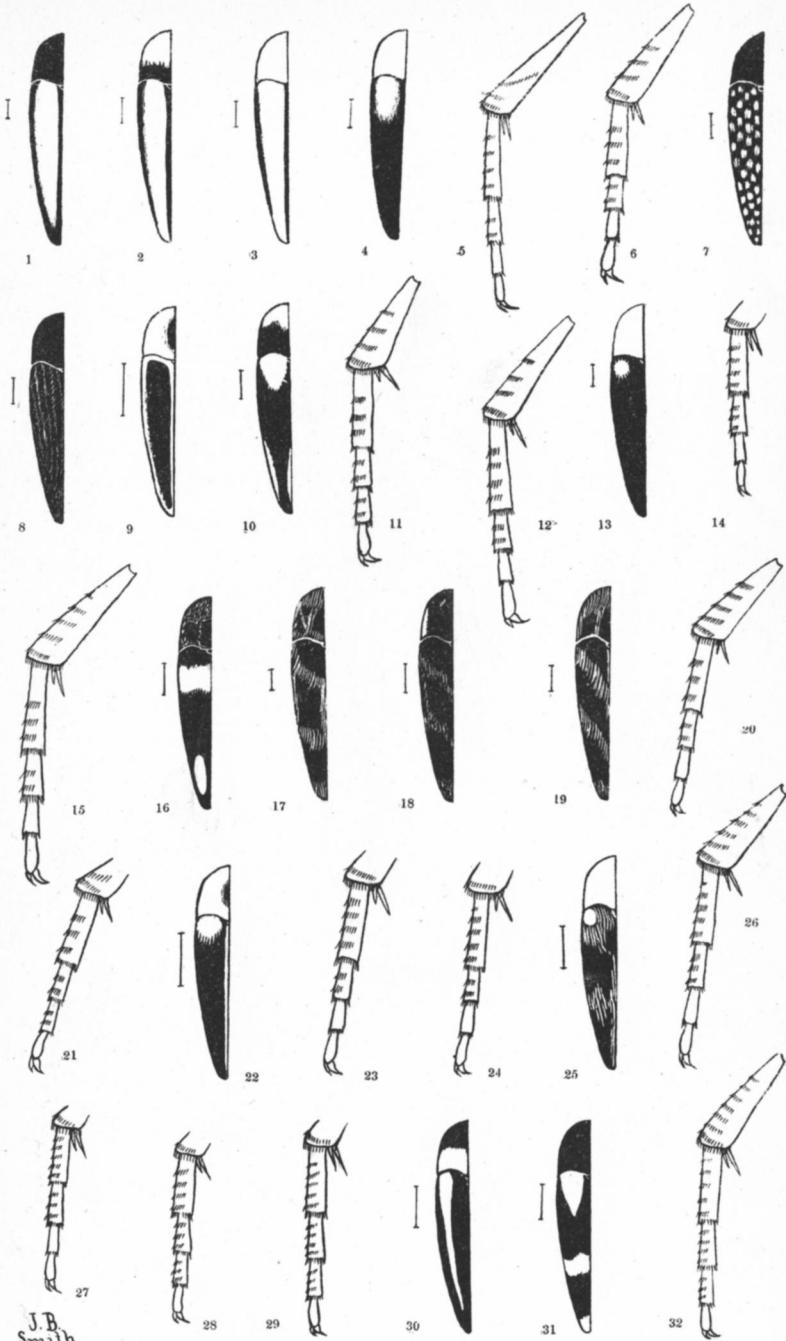
EXPLANATION OF PLATE III.

- | | |
|--------------------------------------|--|
| 1. <i>Mordellistena ancilla</i> Lec. | 17. <i>Mordellistena pubescens</i> Fabr. |
| 2. " <i>varians</i> Lec. | 18. " <i>bihamata</i> Mels. |
| 3. " <i>ustulata</i> Lec. | 19. " <i>liturata</i> Mels. |
| 4. " <i>semiusta</i> Lec. | 20. " tibia of sp. 59. |
| 5. " tibia of sp. 43. | 21. " tarsi of sp. 60. |
| 6. " tibia of sp. 44-49. | 22. " <i>pityptera</i> Lec. |
| 7. " <i>pustulata</i> Mels. | 23. " tarsi of sp. 61. |
| 8. " <i>convicta</i> Lec. | 24. " tarsi of sp. 62 & 63. |
| 9. " <i>fuscipennis</i> Mels. | 25. " <i>cinerco-fasciata</i> sp. n.v. |
| 10. " <i>pectoralis</i> Lec. | 26. " tibia of sp. 64. |
| 11. " tibia of sp. 50. | 27. " tarsi of sp. 66. |
| 12. " tibia of sp. 51-53. | 28. " tarsi of sp. 65. |
| 13. " <i>Schauppuii</i> sp. nov. | 29. " tarsi of sp. 68. |
| 14. " tarsi of sp. 54. | 30. " <i>attenuata</i> Say. |
| 15. " tibia of sp. 55-58. | 31. " <i>discolor</i> Mels. |
| 16. " <i>scalaris</i> Hel. | 32. " tibia and tarsi of 69-71. |



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